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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/758,744

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Jeffrey L. Thielman

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03/16/2004

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EXAMINER

VO, ANH T N

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/758,744

Applicant(s)

THIELMAN ET AL.

Examiner

Anh t.n Vo

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-10, 12-14 and 16-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10, 12-14 and 16-20 is/are allowed.
- 6) ☒ Claim(s) 21n 23, and 24 is/are rejected.
- 7) ☐ Claim(s) 22, 25 and 26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/08/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

Continued Prosecution Application

The request filed on January 8, 2004 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/758,744 is acceptable and a CPA has been established. An action on the CPA follows.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim 21 is rejected under 35 USC 102 (a) as being anticipated by Kasuga et al. (JP Pat. 62121062).

Kasuga et al. disclose in Figures 1-5 an ink cartridge for use in an ink jet printer comprising:

- an ink reservoir structure defining an ink reservoir (4 or 10);
- a fluid interconnect (11) fluidically coupled to the ink reservoir (4 or 10);
- a body (2) of unsaturated ink disposed in said ink reservoir (4); and
- an air diffusion barrier system (5) protecting the ink reservoir (4) and fluid interconnect from air diffusion for a sheft life of at least a period of six months so that ink delivered to the printing system remain in an unsaturated condition for at least said period of six months.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pawlowski, Jr. et al. (WO 99/08876) in view of Kasuga et al. (JP Pat. 62121062).

Pawlowski, Jr. et al. disclose in Figure 1 a continuous ink jet printer comprising:

- an ink supply reservoir (14);
- a quantity of liquid unsaturated ink disposed in said ink supply reservoir (14)
- an ink flow path (16) between the reservoir (14) and the fluid interconnect (24);
- wherein the one or more air diffusion barrier structures includes a first barrier structure for shielding the ink flow path (16) from air diffusion from the external environment (page 19, lines 21-26);
- wherein the ink supply reservoir (14) is a collapsible bag.
- wherein the collapsible bag is a multi-layered structure including a barrier layer providing a high barrier to air diffusion;
- wherein said barrier layer is a metalized layer or a high barrier polymer or a metal oxide deposition layer.

However, Pawlowski, Jr. et al do not disclose a second barrier structure for shielding the fluid outlet from air diffusion into ink flow path from the external environment.

Nevertheless, Kasuga et al. disclose in Figures 1-4 an ink cartridge for use in an ink jet printer comprising a barrier structure (5) for shielding the fluid outlet (11) from air diffusion into ink flow path (not shown) from the external environment.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Kasuga et al. into the Pawlowski, Jr. et al. ink jet printer for the purpose of avoiding air diffusion from the outside into conduit.

Allowable Subject Matter

Claims 7-10 are allowable. These claims would be allowable because none of the prior art references of record discloses a chassis member fabricated of a material having a relatively high air diffusion rate, the chassis member having a fluid passage formed therethrough leading between a fluid interconnect port and an ink reservoir attachment, and wherein the one or more air diffusion barrier structures includes a barrier structure shielding the fluid passage in the combination as claimed.

Claims 12-14 are allowable. These claims would be allowable because none of the prior art references of record discloses the septum barrier structure includes a metal layer affixed to the septum after the quantity of ink is disposed in said ink supply in the combination as claimed.

Claims 16-17 are allowable. These claims would be allowable because none of the prior art references of record discloses the elastomer material, which is selected from a group including EPDM, Butyl, an EPDM/polypropylene (PP) blend, or a Butyl/PP blend in the combination as claimed.

Claims 18-19 are allowable. These claims would be allowable because none of the prior art references of record discloses the air diffusion barrier structures are constructed to shield the liquid unsaturated ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life in the combination as claimed.

Claim 20 is allowable. This claims would be allowable because none of the prior art references of record discloses the unsaturated ink has an initial saturation level of 20% or less, and wherein the air diffusion barrier structures are constructed to shield the liquid unsaturated

Art Unit: 2861

ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life in the combination as claimed.

Claim 22 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses the unsaturated ink in said reservoir has an air absorption capability after said period of six months, so that unsaturated ink upon delivery to the inkjet printhead can absorb air within the printhead until an air saturation level in said ink is reached in the combination as claimed.

Claims 25-26 would be allowable if to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record discloses the unsaturated ink has an initial saturation level of 20% or less, and wherein the air diffusion barrier structures are constructed to shield the liquid unsaturated ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 8:00 A.M. to 6:00 P.M.



ANH T.N. VO
PRIMARY EXAMINER

March 11, 2004